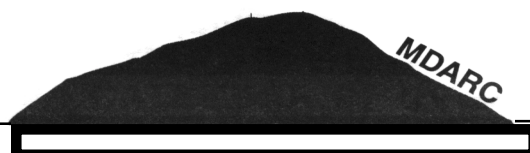


THE CARRIER

March 2001 www.mdarc.org www.pacificon.org



HANDS-ON IS ALIVE AND WELL AT MDARC

March Meeting
Friday March 16
7:30 PM

Direction Finding (T Hunting) In
Amateur Radio
Rich Harrington, KN6FW

Our Savior's Lutheran Church
1035 Carol Lane
Lafayette CA

Last month's meeting was one of the most successful in recent history. We had close to 100 members, guests and friends attend a most exciting evening. Thanks to our VP of Programs, Mike Burge, we had a "before the meeting" workshop set up with several types of kits. They went from very simple to more complicated. Many members showed up just to view the display and talk with our expert.

Our program on soldering was also unique. Our large crowd viewed the demonstration thru wide screen TV. Jerry White was working the camcorder and broadcasting it on a large screen so all could see the proper techniques of soldering. There were many "ah-ha's" from the crowd as eyes and minds were opened to doing it a better way. There were many great questions from the floor and we could have gone on for another 30 minutes.

Coming up very soon will be a large increase in the use of our ATV system. We will be publishing in the Carrier a schedule of coming viewing events. Some of the films will include NASA flights, technical and informational programs, PACIFICON presentations, and the famous "check in" gang on Thursday nights at 8:00 pm, cable channel 58. If anyone has interesting tapes related to amateur radio, contact Dan the Man.

We have plenty of room at the meeting hall for you to bring along a guest. So get excited, bring another ham, or family member. Share the hobby. Thanks to all for your support, we will have an excellent year.

73, Terry

What's inside

President's Message	1
Direction Finding	2
MDARC Auction	3
Virtual QSL Service	4
Membership Update	6
Board Members	7
Calendar	Back

Weekly Nets

Monday 8:00 PM SATERN Net Salvation Army 147.06
Tuesday 7:30 PM APRS 147.06 *
Wednesday 7:30 PM ATV Cable Channel 58
Thursday 7:30 PM Mt. Diablo Amateur Radio Club 147.06
*Planned

RACES Nets see page 2

RACES Nets

Every Thursday at 19:00 hours

Central County Jim Brunk N6BHX 145.680 /s

South County Ed Ritchie K6SFD 146.355 /+
100pl

East County Jim Tittle KC6SOE 146.535 /s

West County Rich Parker KD6JCT 145.110 /-

DIRECTION FINDING (T HUNTING)

Direction finding in amateur radio is like most other facets of the hobby, you need to learn all you can about it and then practice. The great part about transmitter hunting is that the practice is fun, like going on a treasure hunt or playing hide and seek. Direction finding also has its practical aspects: one is finding jammers or other pests, and another is helping in search and rescue.

Anyone who has ever aimed a TV antenna or swung a beam has done radio direction finding. Most of the things you had to contend with for your TV antenna are present in VHF and UHF transmitter hunting. The three things that affect radio signals the most are topography, obstructions and reflections. UHF and VHF signals don't like going through hills. They don't even like trees and other plants much. Buildings (particularly those made of steel and concrete) obstruct and reflect signals. Always consider your surroundings when transmitter hunting. If a signal gets weaker as you approach a hill, the transmitter is most likely on the far side or behind the hill. If the direction of a signal suddenly points to a large building, it is most likely a reflection.

Next I will discuss a series of systems and techniques useful for T hunting.

A simple technique for radio direction finding is "body fade." Just like trees the human body attenuates radio signals. If a signal goes through you to get to your hand held radio it will be weaker than if it does not go through your body first.

Using a beam usually gives you even better accuracy than body fade. However, mounting a

beam to your car can be a challenge, both from wind load and from the mechanics of rotating it. When using a beam you need an attenuator. Most S meters on FM radios saturate at about 20 to 100 microvolts. As you get closer to the hidden transmitter, you have to reduce the signal to your HT to get a change on the S meter.

The Adcock or interferometer is a very accurate direction finding antenna system. An interferometer can get a bearing to about one degree. An interferometer is two antennas out of phase so that when both antennas are equal distance from the transmitter, the signal nulls. They can be made with 2 simple dipoles or with 2 20-element beams.

A time of arrival direction finder works similar to the Adcock antenna system. It switches between the two antennas at an audio rate, typically between 300 to 800 Hz. The switching causes an effective phase modulation in your FM radio. If the antennas are equal distance from the transmitter, there will be no phase change when the antennas are switched and no tone will be heard.

This system also has a sharp null.

The Doppler system gives you a direct read-out of the direction to the transmitter. It works by switching 4 antennas (3 or more can be used).

As the antennas are switched, the FM radio detects the phase change from the antennas and generates a tone in the radio at the switching rate. The phase of the generated tone is compared to the signal switching the antennas to give you the direction to the transmitter.

Besides radio equipment there some other things a well-equipped T hunter brings along. You will need a good continuous map of the area. A book of maps like the Thomas guide will not work. Covering your map with plastic or clear shelf paper will allow you to mark bearing on it as you hunt. Most T hunts start from high locations, bearings from high locations are usually more accurate than ones from low locations. Mark your initial bearing on the map and FOLLOW IT! As you get closer to the transmitter mark the bearings you get along the way. Do not follow just one signal that does not match all the other bearings you have obtained as you progress.

If you have a HT you are not using for the hunt while you are moving put it on the dashboard. When you hear the transmitter in the HT you are very close.

Now that you are close to the transmitter the hunt gets more interesting, although some hidden transmitters are easy to find, because they are on a ham's car. Some hidden transmitters are actually "hidden." When you are very close to a hidden transmitter your HT will even pickup a strong signal without an antenna connected. To reduce the signal into your HT you can wrap it in aluminum foil or slip it into a metal tube. You also could use a field strength meter. Be careful to find the correct signal, because you might find the local FM station. To eliminate this problem you could use a frequency counter. When using a counter you may need an attenuator to reduce the signal to a just detectable level.

The shortest distance traveled from the start to the hidden transmitter wins the standard T hunt. This does not allow the use of triangulation because you are always going directly toward the transmitter.

Team hunts are a situation where triangulation can be very effective. With these hunts you can place teams on two or three high locations. This can pinpoint a transmitter to within about 2000 feet.

Rich Harrington and Mike Allison with equipment



MDARC Auction April 20, 2001

The club will hold its annual auction April 20. Ham gear and related equipment are welcome. Doors open at 6:00 PM, auction begins 7:00 PM. The location will be 1035 Carol Lane, Lafayette. Paul Girard KC6TZU will preside over the auction.

This is a great opportunity to clean out the "shack" or to search for bargains. These events are always a lot of fun. I hope to see you there.

John Schulze, KR6CR
Auction Chair

MDARC General Meeting 02/16/01

President Terry Matzkin, KE6WRE opened the meeting at 7:30 pm. Howard, KE6PTT, reminded members to listen on the input to identify unwanted interference, e.g. 224.770. Terry recognized Gerry White, WB6IZE, on his 80th birthday. Others with birthdays in February joined Gerry for a photo. Paul, N6JOX, reported on PACIFICON progress to date, and asked for volunteers to help the various committee activities. Interested hams should send an e-mail to him or to the committee chairman listed in the directory. All hams should invite others to PACIFICON. Terry called for recognition of George Roush, WB6OFH, on his 25th anniversary as a member of MDARC. Dan, KF6IQL, reminded members of the ATV net at 8pm Thursdays. Mike Powell, N5GTF had prepared a pre-meeting display of kit building materials and assembled kits.

New hams and upgrades announced themselves, to wit: upgrades to General Class: KE6EUB, KE6DXI, KC6SOE; upgrade to Extra Class: KE6BCE; new ham Tracey Borges. Lauren, WA6CIE, announced a weekend trip to SugarPine Lake Campground the 1st weekend of June. Also Field Day the fourth weekend in June. George, WB6OFH, noted the picnic would be the Saturday after the third Friday in July. Tom, KI6O, announced RACES training on Saturday, 0900-1200, in South County.

The business portion of the meeting adjourned at 8pm for a break followed by a program on soldering, by Henry Schroeder, KF6PCE, who demonstrated various techniques and answered questions while on camera with a large projected screen image so all could see easily.

Respectfully submitted,
Paul Dickey, N6JOX, Secretary

MDARC Board Meeting February 5, 2001

Trevor introduced the new appointed Vice-President of the Club, Mike Burge, KG6CSJ. Mike related some ideas for programs and noted that this month's program would be on soldering and kit building.

Trevor moderated a discussion on membership. Sam Lipson, KO6JR, had reported membership of 304, with 174 RRG supporters. George, WB6OFH, made a plea for everyone's involvement in increasing membership. The Board voted to recommend to Sam that some means be established to quickly acknowledge new members by return mail, etc.

George noted that the new amateur lessons had started in Pittsburg with 9 students.

Greg, KE6VTA, brought a recommendation from the Pacifcon Steering Committee for the purchase of one or two computer projectors for use at Pacifcon and Club meetings. the Board recommended a study of the issue, with prices, availability, etc., involving Harry, K6HS, and then a proposal to come back to the Board.

Greg and Keith, N6PMF, reported on the RRRG Technical Committee's letter to NARCC regarding the 147.06 interference; the Board recommended that it be sent.

Trevor, WA6JAU, related the Treasurer's report, and questioned items on the Club telephone bills. The matter was taken up with RRRG members after the meeting.

The meeting was adjourned at 8:25 pm.

Respectfully submitted,
Paul Dickey, N6JOX, Secretary

Virtual QSL Service

My name is Michael Paris (KA9TND). I wanted to let you and the members of your club know about a new service called Virtual QSL Net (WWW.VQSL.NET). VQSL was designed to help the QSL effort when I experienced and saw some outrageous prices on postage for some far away DX contacts. VQSL.NET is an online QSL service that is easy to use and offered to those that would like to both save on postage and have a high quality QSL card that can be printed and added to their collection right away. (most times the same day as the QSO)

On VQSL.NET there is a growing selection of picture categories and different formats that allow the operator to create a quality online QSL card within minutes. Then with one click of a button, the VQSL card is emailed and reaches the DX contact within seconds. (personal pictures can also be used to give your card a more personal touch) For those that do not choose to use this free online service, VQSL.NET offers totally free web page hosting and email to any licensed amateur with a call sign.

Full instructions are given on how to design and setup your first web page, how to find email addresses of your DX contacts and how to design Virtual QSL cards. Email technical support is also offered.

If you have any questions please feel free to contact me directly (ka9tnd@vqsl.net) Also feel free to visit <http://vqsl.net>

73's --- Michael KA9TND

P.S. You might also want to make your members aware that online QSL cards are not official without being sent through the snail mail system, (contest credit) but a great way to have fun, take a load off sorting and save a few bucks at the same time.



Congratulations W6CX Award Winners



Membership Update – Sam Lipson, KO6JR, Membership Chair

The following is a list of changes (renewals, new members, corrections, etc.) to the directory published on 10 February 2001. These changes reflect information current through 22 February 2001. These changes will be noted in the next electronic version of the directory. Please direct any changes in your listing (including our errors) to ko6jr@arrrl.net or the club PO box.

Name, Call, License Class; Spouse Name & Call
Address, Phone numbers, e-mail

* = Rocky Ridge Supporter

-
- * Bryant, Rufus S., Jr, N6NFR (G);
632 E. 12th St., Pittsburg, CA 94565 (h) 925-473-9530 (w) 925-473-1555
- * Clark, Donald, KA6AKH (E); don_clark@iz.com
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- Dixon, Mildred, KB6RDO (N); Peter KB6RDN
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- Kornbau, Jerry, AA4JK (E); aa4jk@arrrl.net
217 Cannery Ct, Pittsburg, CA 94565 (h) 925-432-6646
- Loeppard, Bill, K1BMW (E); Ginnie W6GIN k1bmw@earthlink.net
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- O'Leary, Francis, KF6FRJ (T); f.i.oleary@worldnet.att.net
2107 Asenath Ct, Walnut Creek, CA 94598 (h) 925-933-1807
- * Schroeder, Henry W., KF6PCE (E); Joan KF6QGJ hwschroe@inreach.com
P.O. Box 605, Lockeford, CA 95237 (h) 209-727-5190
- Thompson, Eric, N6SPP (A); n6spp@arrrl.net
2100 Miramonte Ave Apt 10, San Leandro, CA 94578 (h) 510-386-8840 (w) 650-367-7100
- * Tsompanas, Emmanuel(ET), KC6RUF (G); et@armorcity.com
P.O. Box 797, Antioch, CA 94509 (h) 925-778-0487 (w) 707-747-5900 (fax) 707-747-9200
- Warrick, Cliff, W6OEM (E); w6oem@arrrl.net
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WALNUT CREEK, CA
94596-2161

MDARC Board of Directors

Position	Who		How to find them
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Director at Large	John Schulze	KR6CR	925-681-0552 (h) schulze2@ix.netcom.com
Director at Large	Mike Patterson	KE6JGA	925-944-8786 (h) mapa@ieee.org
Director at Large	Tracey Schwartz	KE6TOT	925-370-1917 (h) kurtps@earthlink.net
Membership Chair	Sam Lipson	KO6JR	925-229-5705 (h) ko6jr@arrl.net
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CALENDAR OF EVENTS

3/05/2001	7:30 PM	MDARC Board meeting	Emil Villa's in Concord
3/16/2001	7:30 PM	MDARC General meeting	
3/17/2001	8:00 AM	PACIFICON General meeting	Emil Villa's in Concord
3/30/2001		Carrier Deadline	
4/02/2001	7:30 PM	MDARC Board meeting	Emil Villa's in Concord
4/20/2001	6:00 PM	MDARC Auction starts at 7:00 PM	
4/21/2001	8:00 AM	PACIFICON General meeting	Emil Villa's in Concord
4/27/2001		Carrier Deadline	

Carrier articles should be send to Greg Estep grestep@home.com

MDARC Repeaters

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The Carrier
Newsletter of the Mt. Diablo Amateur Radio Club
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